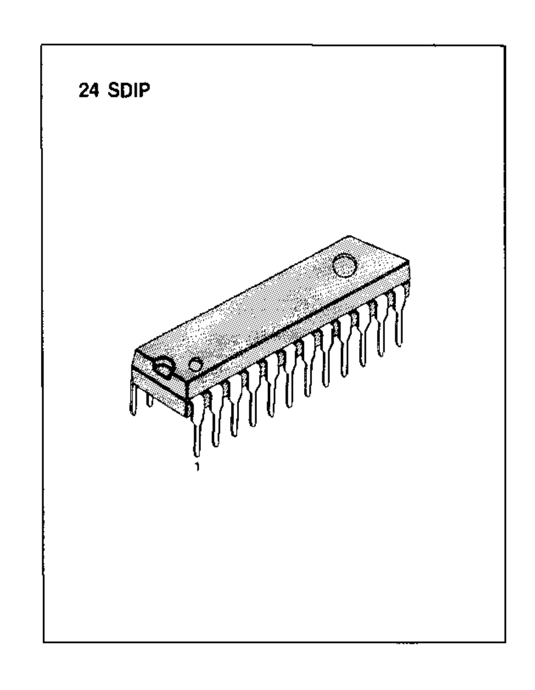
PLAYBACK/RECORD PRE AMPLIFIER FOR DOUBLE DECK

The KA22291 is a monolithic integrated circuit consisting of a dual input playback amplifier, a channel for double or auto-reverse operation and a two-channel record amplifier.
It is suitable for 6V-9V double deck or auto-reverse cassette applications.



FEATURES

- **Dual input two-channel playback amplifier**
- **Two-channel record amplifier**
- **Built in ALC and Muting circuit**
- **PB/REC and playback input select switch included**
- **Power ON ALC discharge circuit included**
- **Operating supply voltage: V_{CC} = 4V ~ 12V**
- **REC/PB power on quick start circuit**
- **Few external part required.**

ORDERING INFORMATION

Device	Package	Operating Temperature
KA22291	24 SDIP	−25°C ~ +75°C

BLOCK DIAGRAM

Fig. 1

* These specifications are subject to change without notice.

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	12	V
Power Dissipation	P_D	1000	mW
Operating Temperature	T_{OPR}	−25 ~ +75	°C
Storage Temperature	T_{STG}	−55 ~ +125	°C

ELECTRICAL CHARACTERISTICS

(T_a = 25°C, V_{CC} = 9V, f = 1KHz, unless otherwise specified)

Characteristic			Symbol	Test Condition	Min	Typ	Max	Unit
Circuit Current			I_{CCQ}	V_I = 0, REC MODE	10	18	26	mA
PLAYBACK	Open Loop Voltage Gain		G_{VO}	V_I = −80dBm	60	90		dB
PLAYBACK	Output Voltage		V_{O1}	THD = 1%, NAB	0.75	1.2		V
PLAYBACK	Total Harmonic Distortion		THD_1	V_O = 0.2V, NAB		0.05	0.3	%
PLAYBACK	Cross Talk	Ch to Ch	CT_1	V_O = 0.5V, NAB		−55	−45	dB
PLAYBACK	Cross Talk	Ain to Bin	CT_2	V_O = 0.5V, NAB		−55	−45	dB
PLAYBACK	Equivalent Input Noise Voltage		V_{NI}	Filter: 20Hz ~ 20KHz R_G = 2.2K, V_I = 0		1.2	2.2	μV
RECORD	Close Loop Voltage Gain		G_{VC}	V_I = 68dBm, ALC off	58	60	62	dB
RECORD	Output Voltage		V_{O2}	THD = 1%, ALC off	1.2	1.6		V
RECORD	Total Harmonic Distortion		THD_2	V_I = 68dBm, ALC off		0.2	1	%
RECORD	ALC Output Voltage		$V_{O(ALC)}$	V_I = −20dBm	0.75	0.95	1.35	V
RECORD	ALC THD		THD_{ALC}	V_I = −20dBm		0.2	1.0	%
RECORD	ALC Range		ΔV_{ALC}	V_I = −60dBm, +3dB UP	40	50		dB
RECORD	Cross Talk (ALC)		CT_3	V_I = −50dBm		−55	−40	dB
RECORD TO PLAYBACK Cross Talk			CT_4	REC input = 0 PLAY output = 0.5V		−55	−40	dB
Muting Range			MR	V_I = −20dBm		−55	−40	dB

*These specification are subject to change without notice.

TEST CIRCUIT

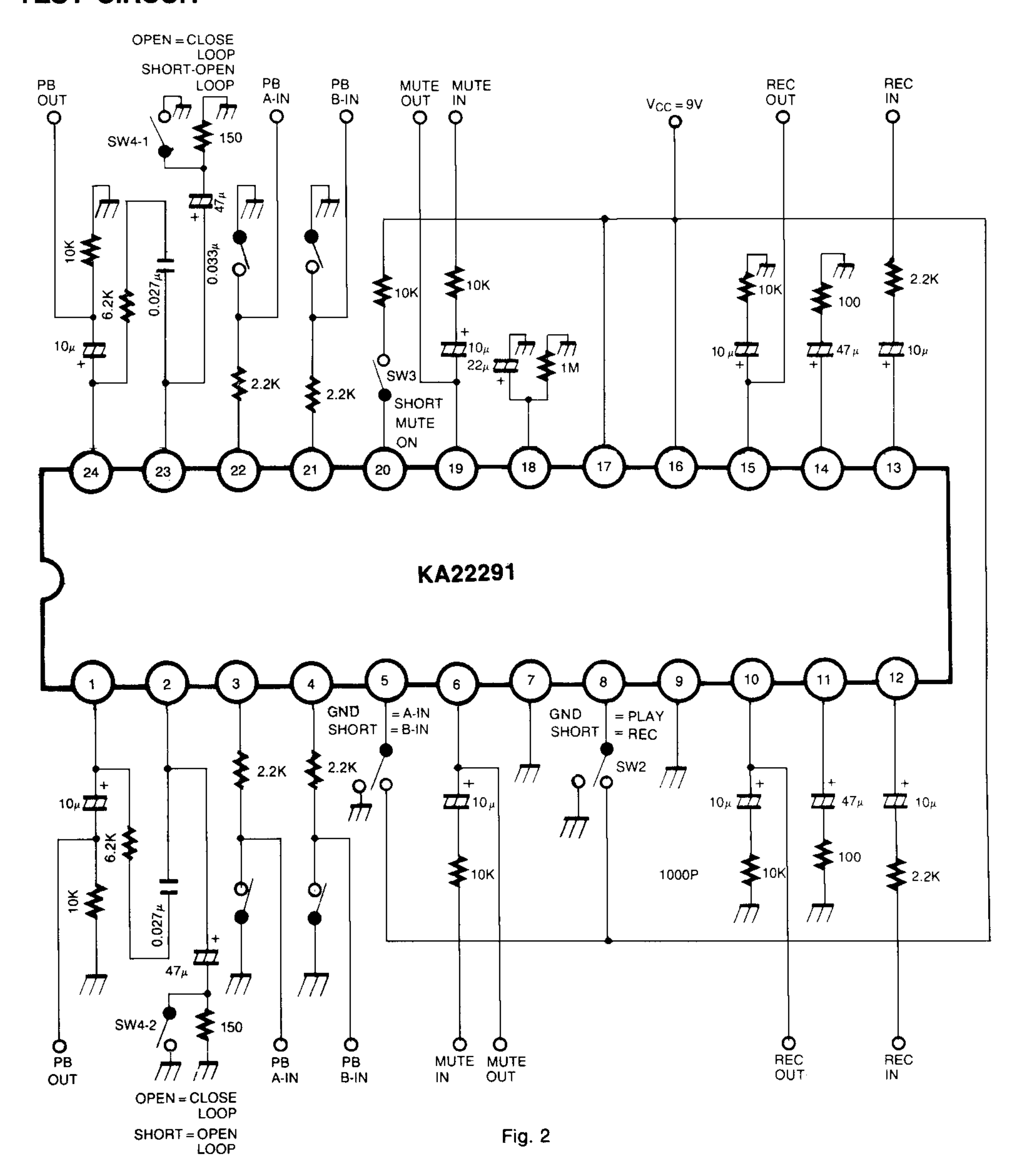


Fig. 2

* These specifications are subject to change without notice.

APPLICATION INFORMATION

1. R/P SWITCH

Apply R/P input voltage at PIN 8.
PLAY: 0V (GND)
REC: 4.5V ~ 12V (Don't apply 13V above).
Only valid A/B input select in playback mode.
In record mode, the playback A-input was available and the ALC was turned on by record bias.

A. RECORD MODE SCHEMATIC

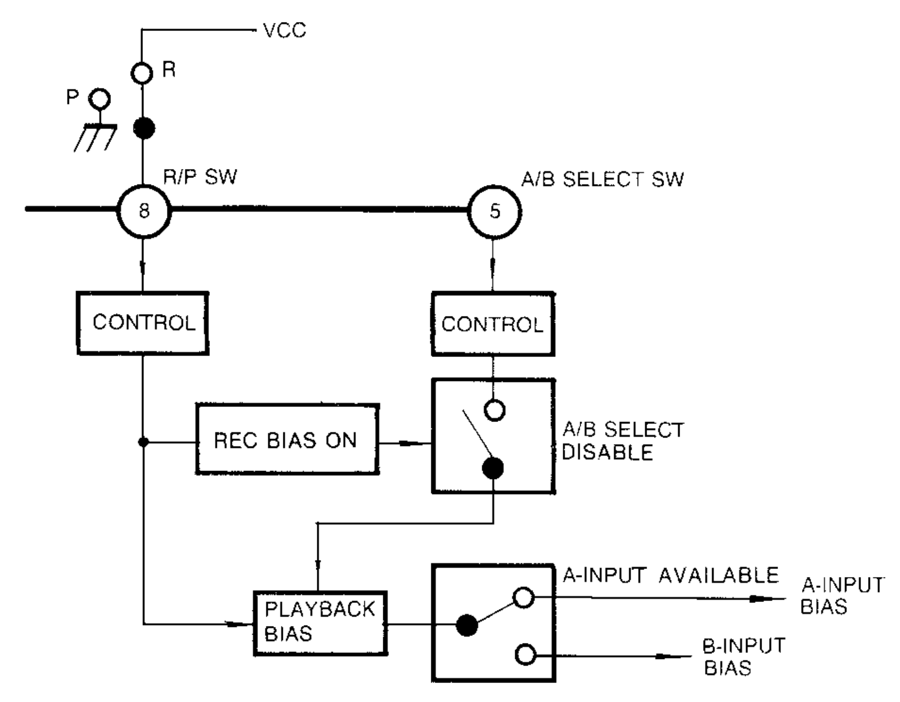


Fig. 3

B. PLAYBACK MODE SCHEMATIC

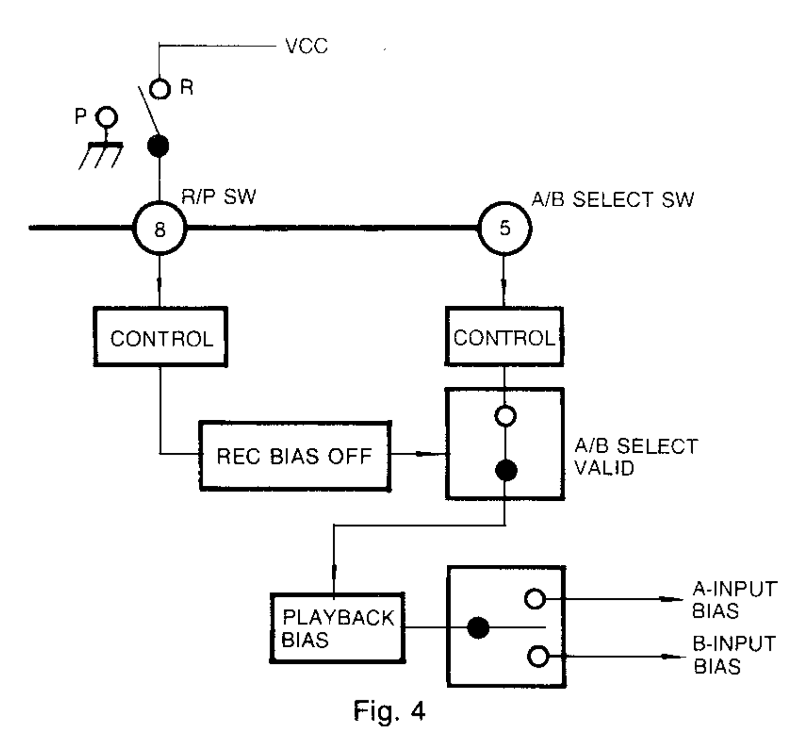


Fig. 4

* These specifications are subject to change without notice.

2. PLAYBACK A/B INPUT SELECT SWITCH (only playback mode)

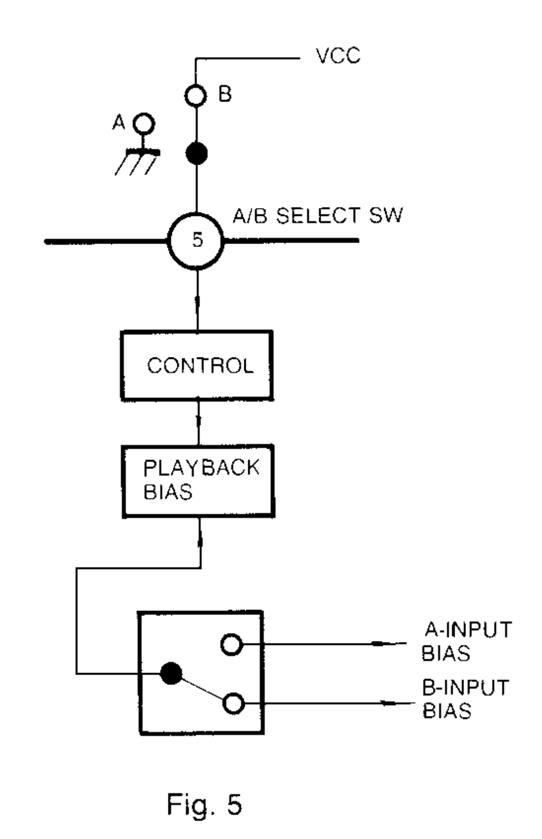


Fig. 5

3. MUTE SWITCH

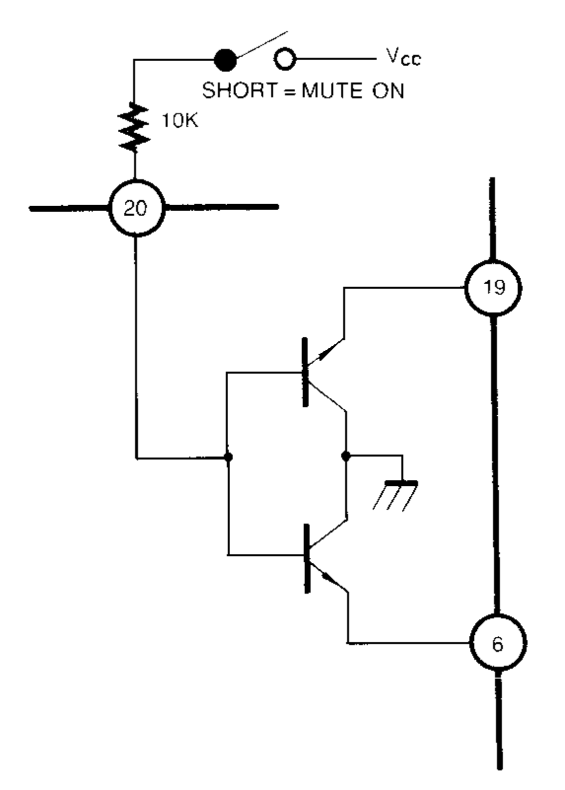


Fig. 6

*These specification are subject to change without notice.